C & C

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Pat. No.: 6,995,136

Application No.: 09/673,785

John Nelson, et al.

Confirmation No.: 4216

Issued:

February 7, 2006

Filed:

For:

PEPTIDE FRAGMENTS OF MURINE

Attorney Docket No.

EPIDERMAL GROWTH FACTOR AS

41934/23838

LAMININ RECEPTOR TARGETS

REQUEST FOR CERTIFICATE OF CORRECTION UNDER 37 CFR §1.322 and 35 USC § 243

Attention: Certificate of Corrections Branch

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Certificate

MAR 1 3 2006

of Correction

Sir:

Transmitted herewith is a Certificate of Correction for U.S. Pat. No. 6,995,136, issued February 7, 2006. Upon reviewing the above-identified patent, the following error was noted.

CERTIFICATE OF MAILING UNDER 37 C.F.R. 1.8(a)

I hereby certify that this paper, along with any paper referred to as being attached or enclosed, is being deposited with the United States Postal Service on the date indicated below, with sufficient postage, as first class mail, in an envelope addressed to: Attention: Certificate of Corrections Branch, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450.

ERROR and REQUESTED CORRECTION

Claim 12, Column 32, line 53, reads "peptide has having an N-terminal amino acid residue" which should be changed to read --peptide having an N-terminal amino acid residue--.

REMARKS

In the Examiner's amendment attached to the Notice of Allowance mailed July 5, 2005, claim 12, which corresponds to issued claim 12, the deletion of the word "has" in the second line of the claim was clearly indicated. See p. 3, bottom. This deletion was apparently overlooked during the printing at the United States Patent and Trademark Office. The error in claim 12, therefore, occurred through the fault of the Office. A copy of the Notice of Allowance with the Examiner's amendment is attached (Exhibit A).

Patentee respectfully solicits the granting of the requested Certificate of Correction. pursuant to 35 U.S.C. § 254. No fee is believed to be due with the filing of this paper. If any fee is required, please charge deposit account 50-0573.

Respectfully submitted,

JOHN NELSON, ET AL.

BY:

DANIEL A. MONACO Registration No. 30,480

DRINKER BIDDLE & REATH, LLP

One Logan Square 18th & Cherry Streets Philadelphia, PA 19103

Tel.: (215) 988-3312 Fax.: (215) 988-2757 Attorney for Petitioners

UNITED STATES PATENT AND TRADEMARK OFFICE **CERTIFICATE OF CORRECTION**

Patent No.:

6,995,136 B1

Page 1 of 1

Application No.: 09/673,785

Dated:

February 7, 2006

Inventor(s): Nelson et al.

It is certified that an error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below.

In Claim 12, line 53, "peptide has having an N-terminal amino acid" should read --peptide having an N-terminal amino acid--.

Mailing Address of Sender: Daniel A. Monaco Drinker Biddle & Reath LLP One Logan Square 18th & Cherry Streets Philadelphia, PA 19103

PATENT NO. 6,995,136 No. of add'l copies @ 30¢ per page

Substitute PTO Form 1050 (REV 3-82)

PHIP\499365\1

INITED STATES PATENT AND TRADEMARK OFFICE

07/05/2005

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P. D. SO. 1450 Alexandria, Virginia 22313-1450

NOTICE OF ALLOWANCE AND FEE(S) DUE

DRINKER BIDDLE & REATH ATTN: INTELLECTUAL PROPERTY GROUP ONE LOGAN SQUARE

18TH AND CHERRY STREETS PHILADELPHIA, PA 19103-6996 L'IDDLE & REATH

EXAMINER KAM, CHIH MIN

ART UNIT PAPER NUMBER 1656

4216

DATE MAILED: 07/05/2005

41934/23838

APPLICATION NO. FILING DATE FIRST NAMED INVENTOR ATTORNEY DOCKET NO CONFIRMATION NO. 09/673.785 12/29/2000

John Nelson

TITLE OF INVENTION: PEPTIDE FRAGMENTS OF MURINE EPIDERMAL GROWTH FACTOR AS LAMININ RECEPTOR TARGETS

APPLN. TYPE SMALL ENTITY ISSUE FEE PUBLICATION FEE TOTAL FEE(S) DUE DATE DUE nonprovisional NO \$1400 \$1400 10/05/2005

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO F E IS DUE OR THE APPLIC TION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B -Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALI ENTITY is shown as NO: A. Pay TOTA

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

Page 1 of 3



United States Patent and Trademark Office

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/673,785	12/29/2000	John Nelson	41934/23838	4216
23973	7590 07/05/2		EXAMINER	
DRINKER BIDDLE & REATH ATTN: INTELLECTUAL PROPERTY GROUP			KAM, CHIH MIN	
ONE LOGAN S	QUARE	MAR 0 9 2006 W	ART UNIT	PAPER NUMBER
18TH AND CHERRY STREETS PHILADELPHIA, PA 19103-6996			1656	
THEADELFIL	A, FA 19103-0990	PAREME	DATE MAILED: 07/05/2005	5

Determination of Patent Term Extension under 35 U.S.C. 154 (b)

(application filed after June 7, 1995 but prior to May 29, 2000)

The Patent Term Extension is 0 day(s). Any patent to issue from the above-identified application will include an indication of the 0 day extension on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Extension is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571) 272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (703) 305-8283.

OIPE 40	-					
a anna	Application No.	Applicant(s)				
MAR 0 9 7006	09/673,785	NELSON ET AL.				
Notice of Allowability	Examiner	Art Unit				
PRABITION	Chih-Min Kam	1653				
The MAILING DATE of this communication apperall claims being allowable, PROSECUTION ON THE MERITS IS herewith (or previously mailed), a Notice of Allowance (PTOL-85) NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RI	(OR REMAINS) CLOSED in this ap) or other appropriate communication IGHTS. This application is subject t	pplication. If not included				
1. This communication is responsive to 4/18/05.						
2. The allowed claim(s) is/are 1-10,12,14-16,18-20 and 22-27						
3. X The drawings filed on 22 July 2002 are accepted by the Examiner.						
 4. Acknowledgment is made of a claim for foreign priority un a) All b) Some* c) None of the: 1. Certified copies of the priority documents have 2. Certified copies of the priority documents have 	e been received.					
Copies of the certified copies of the priority documents have Copies of the certified copies of the priority documents.						
International Bureau (PCT Rule 17.2(a)).	Millerits flave been received in the	national stage application from the				
* Certified copies not received:		•				
Applicant has THREE MONTHS FROM THE "MAILING DATE" of noted below. Failure to timely comply will result in ABANDONMI THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.	of this communication to file a reply ENT of this application.	complying with the requirements				
5. A SUBSTITUTE OATH OR DECLARATION must be submining INFORMAL PATENT APPLICATION (PTO-152) which give	es reason(s) why the oath or declara	'S AMENDMENT or NOTICE OF ation is deficient.				
6. CORRECTED DRAWINGS (as "replacement sheets") must	t be submitted.					
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached						
1) hereto or 2) to Paper No./Mail Date						
(b) ☐ including changes required by the attached Examiner's Paper No./Mail Date	Amendment / Comment or in the C	Office action of				
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).						
7. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.						
Attachment(s)	•					
1. Notice of References Cited (PTO-892)	5. Notice of Informal P	atent Application (PTO-152)				
2. Notice of Draftperson's Patent Drawing Review (PTO-948)	6. 🛛 Interview Summary	6. ☑ Interview Summary (PTO-413),				
3. Information Disclosure Statements (PTO-1449 or PTO/SB/08 Paper No./Mail Date	Paper No./Mail Date B), 7. ⊠ Examiner's Amendm	e <u>20050622</u> . nent/Comment				
4. Examiner's Comment Regarding Requirement for Deposit	8. 🛛 Examiner's Stateme	ent of Reasons for Allowance				
of Biological Material	9. Other					

Marie 4 2006.

Art Unit: 1653

An Examiner's Amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Daniel Monaco on June 23, 2005.

Examiner's Amendments to the specification:

Please insert the following paragraph after the title at page 1:

This application is a 371 of international application PCT/GB99/01211, filed April 21, 1999, which claims the foreign priority of United Kingdom Application No. 9808407.2, filed April 21, 1998.

Examiner's Amendments to the Claims:

Cancel claims 13 and 17.

Claims 1, 4-7, 10, 12, 14, 15, 19, 20 and 24-26 have been amended as follows:

- 1. (Currently amended) A synthetic peptide factor comprising the amino acid sequence SEQ ID NO:2 wherein:
- a) said sequence is modified such that at least one or both of i) SEQ ID NO:2 tyrosine amino acid residue 5 and ii) SEQ ID NO:2 arginine amino acid residue 9 are substituted, wherein said tyrosine amino acid residue 5 is substituted with a tyrosine analogue, or and said arginine amino acid residue 9 is substituted with an arginine analogue, respectively, and
 - b) the synthetic peptide factor is capable of binding binds to laminin receptors.
- 4. (Currently amended) The synthetic peptide factor of claim 1, wherein the SEQ ID NO:2 arginine residue 9 is substituted by Citrulline citrulline.

Art Unit: 1653

Page 3

5. (Currently amended) A method of antagonizing a laminin receptor in a patient, the method comprising the steps step of[[:]]

- a) administering to the patient a medicament comprising a synthetic peptide factor comprising the amino acid sequence SEQ ID NO:2 in an amount effective to bind the laminin receptor as an antagonist, wherein said sequence is modified such that at least one or both of i) SEQ ID NO:2 tyrosine amino acid residue 5 and ii) SEQ ID NO:2 arginine amino acid residue 9 are is substituted with a tyrosine analogue or an arginine analogue, respectively, and b) binding the synthetic peptide factor to the laminin receptor.
- 6. (Currently amended) A method of agonizing a laminin receptor in a patient, the method comprising the steps step of[[:]]
- a) administering to the patient a medicament comprising a synthetic peptide factor comprising the amino acid sequence SEQ ID NO:2 in an amount effective to bind the laminin receptor as an agonist, wherein said sequence is modified such that at least one or both of i)

 SEQ ID NO:2 tyrosine amino acid residue 5 and ii) SEQ ID NO:2 arginine amino acid residue 9 are is substituted with a tyrosine analogue or arginine analogue, respectively, and
 b) binding the synthetic peptide factor to the laminin receptor.
- 7. (Currently amended) The method of claim 6 wherein said medicament is for treating endothelial cell wounding promoting wound healing.
- 10. (Currently amended) The synthetic peptide factor of claim 2, wherein the SEQ ID NO:2 arginine residue 9 is substituted by Citrulline citrulline.
- 12. (Currently amended) The method of claim 5, wherein said synthetic peptide has having an N-terminal amino acid residue and a C-terminal amino acid residue is further

Art Unit: 1653

modified, wherein the N-terminal amino acid residue is chemically modified by the addition of an amino acid capping moiety, the C-terminal amino acid residue is chemically modified by the addition of an amino acid capping moiety, or a cysteine residue thiol group is chemically modified by the addition of an amino acid capping moiety to the cysteine residue thiol group.

- 14. (Currently amended) The method of claim 12, wherein the SEQ ID NO:2 arginine residue 9 is substituted by Citrulline citrulline.
- 15. (Currently amended) The method of claim 6, wherein said synthetic peptide has having an N-terminal amino acid residue and a C-terminal amino acid residue is further modified, wherein the N-terminal amino acid residue is chemically modified by the addition of an amino acid capping moiety, the C-terminal amino acid residue is chemically modified by the addition of an amino acid capping moiety, or a cysteine residue thiol group is chemically modified by the addition of an amino acid capping moiety to the cysteine residue thiol group.
- 19 (Currently amended) A synthetic peptide factor comprising an N-terminal amino acid residue and a C-terminal amino acid residue, and the amino acid sequence SEQ ID NO:2, said peptide factor having an N-terminal amino acid residue and a C-terminal amino acid residue, wherein
- a) said sequence is modified by at least one first modification and optionally by at least one second modification; and
- b) the synthetic peptide factor is capable of binding binds to laminin receptors, wherein said first modification is selected from the group consisting of: substitution of SEQ ID NO:2 tyrosine amino acid residue 5 with a tyrosine analogue and substitution of SEQ ID NO: 2 arginine amino acid residue 9 with an arginine analogue; and

Page 4

Art Unit: 1653

Page 5

wherein said second modification is selected from the group consisting of: chemical modification of the N-terminal amino acid residue by the addition of an amino acid capping moiety; chemical modification of the C-terminal amino acid residue by the addition of an amino acid capping moiety; chemical modification of a cysteine residue thiol group by the addition of an amino acid capping moiety to the cysteine residue thiol group; replacement of a peptide bond with a protease-resistant peptide bond isostere; replacement of a glycine residue with an α , α -dialkyl substituted amino acid; and stabilisation of a helical turn of the peptide using suitable intra chain linkers.

- 20. (Currently amended) A synthetic peptide factor comprising the amino acid sequence SEQ ID NO:2, and said peptide factor having an N-terminal amino acid residue and a C-terminal amino acid residue, wherein
- a) said sequence is modified by at least one a first modification and by at least one second modification; and
- b) the synthetic peptide factor is capable of binding binds to laminin receptors,
 wherein said first modification is selected from the group consisting of: substitution of
 SEQ ID NO:2 tyrosine amino acid residue 5 with a tyrosine analogue and substitution of SEQ ID
 NO: 2 arginine amino acid residue 9 with an arginine analogue; and

wherein said second modification is selected from the group consisting of: chemical modification of the N-terminal amino acid residue by the addition of an amino acid capping moiety; chemical modification of the C-terminal amino acid residue by the addition of an amino acid capping moiety; chemical modification of a cysteine residue thiol group by the addition of an amino acid capping moiety to the cysteine residue thiol group; replacement of a peptide bond

Art Unit: 1653

with a protease-resistant peptide bond isostere; replacement of a glycine residue with an α,α -dialkyl substituted amino acid; and stabilisation of a helical turn of the peptide using suitable intra chain linkers.

24. (Currently amended) A method of antagonizing a laminin receptor in a patient, the method comprising the steps step of[[:]]

a) administering to the patient a medicament comprising a synthetic peptide factor in an amount effective to bind the laminin receptor as an antagonist, wherein said peptide factor comprises comprising the amino acid sequence SEO ID NO:2, and said peptide factor having an N-terminal amino acid residue and a C-terminal amino acid residue;

wherein said sequence is modified by at least one a first modification and optionally by at least one second modification;

wherein said first modification is selected from the group consisting of: substitution of SEQ ID NO:2 tyrosine amino acid residue 5 with a tyrosine analogue and substitution of arginine amino acid residue 9 with an arginine analogue; and

wherein said second modification is selected from the group consisting of: chemical modification of the N-terminal amino acid residue by the addition of an amino acid capping moiety; chemical modification of the C-terminal amino acid residue by the addition of an amino acid capping moiety; chemical modification of a cysteine residue thiol group by the addition of an amino acid capping moiety to the cysteine residue thiol group; replacement of a peptide bond with a protease-resistant peptide bond isostere; replacement of a glycine residue with an α,α -dialkyl substituted amino acid; and stabilization of a helical turn of the peptide using suitable intra chain linkers; and

Art Unit: 1653

b) binding the synthetic peptide factor to the laminin receptor.

25. (Currently amended) A method of agonizing a laminin receptor in a patient, the method comprising the steps step of[[:]]

a) administering to the patient a medicament comprising a synthetic peptide factor in an amount effective to bind the laminin receptor as an agonist, wherein said peptide factor comprises comprising the amino acid sequence SEO ID NO:2, and said peptide factor having an N-terminal amino acid residue and a C-terminal amino acid residue;

wherein said sequence is modified by at least one a first modification and optionally by at least one second modification;

wherein said first modification is selected from the group consisting of: substitution of SEQ ID NO:2 tyrosine amino acid residue 5 with a tyrosine analogue and substitution of arginine amino acid residue 9 with an arginine analogue; and

wherein said second modification is selected from the group consisting of: chemical modification of the N-terminal amino acid residue by the addition of an amino acid capping moiety; chemical modification of the C-terminal amino acid residue by the addition of an amino acid capping moiety; chemical modification of a cysteine residue thiol group by the addition of an amino acid capping moiety to the cysteine residue thiol group; replacement of a peptide bond with a protease-resistant peptide bond isostere; replacement of a glycine residue with an α,α -dialkyl substituted amino acid; and stabilisation of a helical turn of the peptide using suitable intra chain linkers; and

b) binding the synthetic peptide factor to the laminin receptor.

Min I & Loub

Art Unit: 1653

Page 8

26. (Currently amended) The method of claim 25 wherein said medicament is for treating endothelial cell wounding promoting wound healing.

The following is an Examiner's Statement of Reasons for Allowance: The following reference appears to be related to the claimed invention. Nelson et al. (J. Biol. Chem. 271, 26179-26186 (1996)) teach a laminin-antagonist peptide with amino acid residues 33-42 of mEGF interacts with a 67 kDa laminin receptor of breast cancer and endothelial cell. However, the reference does not teach or suggest a synthetic peptide factor comprising the amino acid sequence SEQ ID NO:2 (CVIGYSGDRC), wherein the sequence is modified and has at least one of SEQ ID NO:2 tyrosine amino acid residue 5 being substituted with a tyrosine analogue and SEQ ID NO:2 arginine amino acid residue 9 being substituted with an arginine analogue. Therefore, the claims are allowable over the art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Min Kam whose telephone number is (571) 272-0948. The examiner can normally be reached on 8.00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon Weber can be reached at 571-272-0925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chih-Min Kam, Ph. D.

CMK

Patent Examiner

JON WEBER

TERVISORY PATENT EXAMINER

CMK

June 23, 2005

Min Jacobo